



ATI-188

**UNITED STATES PATENT AND TRADEMARK OFFICE**

Examiner

P. English

Art Unit

3611

In re Application of:

David S. Breed et al.

For:

METHOD AND APPARATUS FOR  
DETECTING THE PRESENCE OF A  
CHILD SEAT

Filed:

May 26, 1998

Serial No.:

09/084,641

#41/Decl  
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11:52  
RECEIVED - 9 2300**DECLARATION UNDER 37 C.F.R. 1.131**

Hon. Commissioner of Patents and Trademarks  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

David S. Breed, Wendell C. Johnson and Wilbur E. DuVall, the inventors in the above-identified application, declare as follows:

1. Prior to April 12, 1994, while working together in the U.S., we conceived of a vehicle interior monitoring system (VIMS) in which a system in a vehicle is controlled based on the recognition and identification of an occupying item in the vehicle's passenger compartment as set forth in the claims pending in this application. This conception occurred in the U.S. In conjunction with the identification of the occupying item, a child seat and occupant position detector (CSOPD) was also conceived.

2. Based on our invention, David S. Breed and Wilbur E. DuVall prepared in the U.S., with the assistance of Vittorio Castelli, a paper for presentation at the Society of Automotive Engineers (SAE) annual conference which took place in Detroit, Michigan, U.S.A. on February 28 to March 3, 1994. This paper was assigned SAE Paper No. 940527 and is attached hereto.

3. As set forth on page 1, first column, second paragraph, the VIMS is designed to enhance the operation of automotive systems, such as the heating, air conditioning and entertainment systems, to adjust the operation of these systems in accordance with the occupancy of the vehicle.

4. As set forth in the section bridging pages 3 and 4, the CSOPD is designed to detect the presence of a child seat, as opposed to, e.g., an adult occupant.

5. One of the most important systems which can be controlled by the recognition and identification elements is airbag deployment, i.e., the airbag can be disabled if the occupying item of the vehicle is a child in a rear facing child seat or in the absence of an occupant (see page 2, second column).

6. The airbag deployment can be controlled entirely based on the recognition and identification of the occupying item, i.e., when the occupying item is a rear facing child seat, without even determining the position of the occupant. This is because airbag deployment should be disabled whenever there is a rear facing child seat in the seat to be affected by airbag deployment, regardless of the position of the rear facing child seat (see page 2, second column).

7. To this end, a "pattern" from different occupying items is obtained, e.g., a rear facing child seat, an adult occupant, a forward facing child seat, a box, a bag of groceries, and stored in a pattern recognition apparatus, these patterns being different from one another.

8. Thereafter, in operation, different sensors are used to obtain a pattern from the occupying item, e.g., ultrasonic sensors that receive ultrasonic radiation radiated into the passenger compartment (see page 4, second column). The pattern is electronically altered for processing purposes and then applied to the pattern recognition apparatus to arrive at a determination of the occupying item, i.e., recognize and identify the occupying item. Based on the identification, the airbag may be disabled.

9. The CSOPD thus operates accordingly to a novel pattern recognition technique that is based on the fact that different objects will have different patterns of reflected waves or illumination. In other words, rear facing child seats will have one

general form of reflected waves or illumination whereas adult occupants will have another general form and a bag of groceries yet another general form.

10. The CSOPD disclosed in the SAE Paper forms the subject of the above-identified application.

11. Substantially all of the features set forth in the claims of the above-identified application are also described in the Paper.

12. In our opinion, the publication of this SAE Paper prior to April 12, 1994 conclusively demonstrates the conception of the claimed inventions prior to April 12, 1994 and acts supporting such conception occurred in the U.S.

13. After April 12, 1994 and prior to filing the parent application of the instant application on May 9, 1994, a draft patent application for this invention prepared by David S. Breed was being revised to conform to acceptable U.S. patent practice by the attorney handling matters on behalf of the assignee of the invention, Automotive Technologies International, Inc. As evidence of such work, attached hereto is a copy of the attorney's bill showing the hours spent on reviewing and revising the draft application. The parent application was designated docket no. ATI-77 and is also referred to by the initials VIMS-Vehicle Interior Monitoring System. As evidenced by the attached copy of the bill, on April 10-12, 1994, the attorney spent 1 hour on matters on behalf of the assignee (Automotive Technologies International (ATI)) including a review of the draft application for ATI-77 that was forwarded to him shortly before this date by Mr. Breed. Thereafter, the attorney spent 2.5 hours on ATI matters on April 17, 1994 including a review of ATI-77. Further, on April 24, 1994, the attorney spent 1 hour solely revising the draft application for ATI-77 including a telephonic discussion with Mr. Breed regarding the same. On April 26, 1994, the attorney spent an additional 2.75 hours revising the application and on April 27, 1994, an additional 1.75 hours.

14. After April 12, 1994 and prior to May 9, 1994, Mr. Breed was also preparing drawings for the application at his office in Boonton, Township, Morris County, New Jersey, U.S.A. As evidence of this work, submitted herewith is a printout of a list of the drawings prepared for this application indicating the date each drawing was last modified. It should be noted that FIG. 18 was last modified on April 22, 1994, FIGS. 1-6,

9 and 15 were last modified on April 29, 1994, FIGS 8, 11-14 and 16 were last modified on May 2, 1994 and FIGS. 10 and 19 were last modified on May 3, 1994. Thus, while the attorney was reviewing and revising the application, Mr. Breed was in the process of preparing drawings to file with the application.

15. After the attorney had completed revising the text of the application, a Declaration/Power of Attorney was sent to each of us for signature. Attached hereto are copies of the Declaration/Power of Attorney forms submitted with the parent application (ATI-77) showing a signature by the inventor Wendell C. Johnson on May 3, 1994 resident in Topanga, California and by the inventor Wilbur E. DuVall also on May 3, 1994 resident in Kimberling City, Missouri (but on a different document). Thus, these documents were sent to the respective inventor shortly before May 3, 1994 so that we were able to execute the Declarations on May 3, 1994 and thereafter return them to the attorney.

16. We hereby state that the above statements were made with the knowledge that willful false statements and the like are punishable by fine and/or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that any such willful false statement may jeopardize the validity of this application or any patent resulting therefrom.

Date: \_\_\_\_\_

Name: David S. Breed

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name: Wilbur E. DuVall

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name: Wendell C. Johnson

Signature: \_\_\_\_\_